

REMARKS

Claims 1-16 are pending in this application. Claims 1-16 have been rejected under 35 USC §§ 112, 102(b), and 103(a).

The examiner has rejected claims 1-16 under 35 USC §112, second paragraph. Specifically, the examiner objects to the term “rubbery” however, the language pertaining to the thermoplastic elastomers has been deleted. Therefore, the term “rubbery” refers now only to cross-linked polymer materials which are inherently rubbery as is implied in the specification on page 3, lines 10-19.

The examiner has further rejected claim 7 because he argues that it is unclear. The examiner argues that the polylactic acid would consist of styrene, butadiene acrylonitrile or (meth) acrylic monomers. However, as discussed in the specification on page 5, lines 6-23, the second polymer material may be polylactic acid, polyurethanes, polyamides, polyesters, polyesteramides and polybutylene terephthalates or polymers, copolymers, block copolymers, triblock copolymers or graft copolymers. In the case of co-polymers, the polymers may be made of the monomers styrene, butadiene, acrylonitrile, (meth)acrylate, and acrylic esters, or one of the aforementioned polymers. These materials may then be mixed with polycarbonates. Applicants believe that this is clear in claim 7. However, if the examiner deems this language unclear, applicants respectfully request the examiner to suggest changes that may make the claim language more clear.

The examiner has rejected claims 1-16 under 35 USC §§102(b) and 103 in view

of Kubanek (GB 2,194,791). However, applicant's assert that Kubanek does not anticipate the instant invention because each and every element of the claims is not present in claim 1. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Claim 1 has been amended to encompass particulate cross-linked polymers which have rubbery properties and a glass transition temperature of  $T_g$  of  $\leq -10^\circ\text{C}$ . Thus, the definition of claim 1 encompasses graft rubber and polymers, copolymers, block polymers, triblock copolymers or graft copolymers of styrene, butadiene, acrylonitrile, (meth)acrylate or acrylic esters. The particulate cross-linked polymer-materials of the invention are not comminuted materials, like thermoplastics, but are obtained in fine-particle form as a result of their preparation by emulsion polymerization, followed by spray-drying.

Kubanek describes pulverious porous carrier materials which can be organic, polymer materials or inorganic materials such as hydrated oxide of silicon, titanium, aluminum, bentonite. (Kubanek p. 1, lines 99-102). Kubanek describes thermoplastic polymer materials, not cross-linked polymer materials as in the instant application. The examples in Kubanek utilize PET (example 1), polyphenylenoxide (example 3) and ABS (example 4) which are thermoplastics or thermoplastically processable materials. Examples 2 and 4 use powdery porous silicon oxide as carrier material and polybutylmethacrylate as a thickener.

Additionally, the examiner has failed to establish a *prima facie* case of obviousness with respect to the instant invention. Three requirements must be fulfilled in order for a *prima facie* case of obviousness to be satisfied. First, there must be some suggestion or motivation in the references themselves or available to one of ordinary skill in the art to modify the reference or to combine reference teachings.<sup>1</sup> Second, there must be a reasonable expectation of success. Third, the prior art references combined must teach or suggest all the claim limitations. MPEP §2143. Both the suggestion to carry out the claimed process and the reasonable expectation of success must be found in the prior art and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). With respect to the instant application the examiner has failed to meet this burden.

Overall, Kubanek describes that the odorant is adsorbed into the porous structure of the carrier material. (Kubanek p. 1, lines 124-129). Kubanek also describes the large specific surface of the carriers and their porous structure; ranging from 34 m<sup>2</sup>/g to 560 m<sup>2</sup>/g. (Examples 4 and 3, respectively). Furthermore, as discussed above, Kubanek describes thermoplastic polymer materials as carriers. As claim 1 of the instant invention describes cross-linked polymers the Kubanek reference does not provide the required suggestion to combine references in order to support a *prima facie* case of obviousness.

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<sup>1</sup>There are three possible sources for motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-1458 (Fed. Cir. 1998).

In contrast Kubanek the instant invention employs particulate cross-linked polymer materials as carrier materials and the odorant is absorbed into the macromolecular structure upon which swelling of the polymer material occurs. Due to the cross-linked polymer network, the odorant-laden first polymer material does not melt when being mixed with the second polymer material and further processed under heat and pressure in a mixing assembly, such as an extruder or kneader. As a result, the odorant is much better retained by the polymer carrier material than it is in thermoplastic polymer materials, which melt upon heating, and odorant plastics having a long-lasting odor are obtained.

The examiner has also rejected claims 1-3 and 6-16 under 35 USC §§102(b) and 103(a) as obvious over Pougalan (US 4,734,278). The Example 1 of Pougalan, relied on by the examiner, utilizes a polyether-ester-amide resin (PEBAX granulate) as carrier material. Indeed, example 1 discusses using perfumed granulates to perfume a thermoplastic polymeric base. (Pougalan col. 4, lines 28-30). Pougalan further describes EVA and PVC. (Column 3, lines 52-54). These polymers are thermoplastic polymers or thermoplastic elastomers and are not cross-linked polymer materials. Thus, these materials do not have the rubbery properties and glass transition temperature of the polymer materials of the invention as required in claim 1 of the instant invention. As Pougalan does not describe cross-linked polymers as carrier materials Pougalan does not meet each and every element of the claims.

Furthermore, Pougalan does not support a *prima facie* case of obviousness as it

does not meet the requirements discussed above. It is not clear to the applicants how Pougalan which utilizes different materials than that of the instant invention and operates in a different manner can support a *prima facie* case of obviousness.

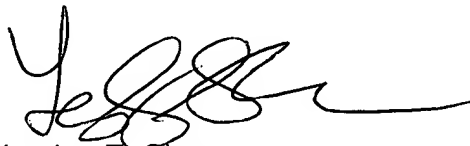
Accordingly, neither Kubanek nor Pougalan utilize the same carrier materials as the instant invention. Neither reference describes odorant plastics having long lasting odor obtained with the particulate cross-linked materials of the instant invention. In view of the above remarks and amendments to the claims, applicants request the rejections be withdrawn and the claims be passed to issue.

**A check in the amount of \$420.00 is attached to cover the required two month extension fee.**

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

KEIL & WEINKAUF

A handwritten signature in black ink, appearing to read 'Lesley E. Shaw', with a long horizontal flourish extending to the right.

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**COMPLETE LISTING OF ALL CLAIMS IN THE APPLICATION**

1. (Currently amended) A process for preparing odorant polymers or plastics, in which ~~comminuted~~ or fine-particle first polymer material is mixed with a desired odorant, allowed to swell, and, after being allowed to swell with the odorant, is mixed with a second polymer material, where the first polymer material differs from the second polymer material and is selected from particulate cross-linked plastics ~~or from thermoplastic elastomers~~ which have rubbery properties, with a glass transition temperature  $T_g$  of  $\leq -10^\circ\text{C}$ , which is below the glass transition temperature of the second polymer material.
2. (Original) The process as claimed in claim 1, wherein the odorant used comprises an odorant oil.
3. (Original) A process as claimed in claim 1, wherein the odorant used comprises pheromones and/or ecomones.
4. (Previously presented) A process as claimed in claim 1, wherein the first polymer material is mixed and allowed to swell with the odorant in a closed container.
5. (Previously presented) A process as claimed in claim 1, wherein the first polymer material in the form of a powder is mixed with the odorant, allowed to swell, and then further processed with the second polymer material in ground, powder or pellet form under high pressure and at about room temperature, and with heating to a temperature which is below the glass transition temperature of

the second polymer material, or with heating to a temperature which is above the glass transition temperature either of the first polymer material or of the second polymer material.

6. (Currently amended) A process as claimed in claim 1, wherein the first polymer material used comprises ~~thermoplastics, thermoplastic elastomers, graft rubber, polymers of renewable raw materials, polymers or polymer mixtures of starch.~~
7. (Previously presented) A process as claimed in claim 6, wherein the second polymer material is selected from the group consisting of polylactic acid, polyurethanes, polyamides, polyesters, polyesteramides, and polybutylene terephthalates, and further consisting of polymers, copolymers, block copolymers, triblock copolymers and graft copolymers of monomers selected from the group consisting of styrene, butadiene, acrylonitrile, (meth)acrylate, and acrylic esters, and further consisting of mixtures of said materials with polycarbonates.
8. (Original) An odorant polymer or an odorant plastic obtained by the process as claimed in claim 1.
9. (Original) An odorant polymer or odorant plastic as claimed in claim 8 in pellet form.
10. (Currently amended) The process of applying the odorant polymer or plastic of claim 8 to an article ~~for the defense against animals.~~

11. (Original) A molding composition which comprises an odorant polymer or odorant plastic as claimed in claim 8.
12. (Currently amended) The process of applying the composition of claim 11 to an article for altering and/or improving the odor properties of the articles.
13. (Original) An article which comprises an odorant polymer or an odorant plastic as claimed in claim 8.
14. (Original) An article as claimed in claim 13 in the form of a plastic molding or a semifinished product.
15. (Canceled) ~~The process of utilizing the article of claim 13 for improving room air quality.~~
16. (Canceled) ~~The process of utilizing the article of claim 13 for defense against animal pests.~~